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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,005	01/28/2002	Shuichi Karino	8013-1002	2094
466	7590	10/04/2006	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			ROSE, KERRI M	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/056,005	<b>Applicant(s)</b> KARINO ET AL.	
	<b>Examiner</b> Kerri M. Rose	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-8,10-14,22,25-27,30-32 and 35-92 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22,27-32,37-41,50-55 and 64-92 is/are rejected.
- 7) ☒ Claim(s) 25,26,35,36,43-49 and 56-63 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1, 3-8, 10-15, and 17-21 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 3-8, and 10-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. These claims recite mutually exclusive embodiments. No single embodiment in the original disclosure supports the backup router **and** discarding packets as now recited in claims 1 and 8.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 27, 30, 31, and 65-91 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are vague and indefinite because it is not clear what steps are claimed. It is noted that claim 27 is a method claim, but its body is substantially the same as that of the apparatus claim 22. Similarly, claims 30, 31, and 65-91 also lack positively recited method steps for defining an actual process for the method. Proper recitation

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for method claims shall list a series of method steps in clear and concise language. See Ex parte Erlich, 3 USPQ 2d 1011 at 1017 [6].

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 37-41, 50-55, 64-69, 78-83, and 92 are rejected under 35 U.S.C. 102(a) as being anticipated by admitted prior art (APA).

8. In regards to claim 37, APA discloses a communication network comprising: a host network (fig. 1 element 1); a plurality of base stations (fig. 1 BS1-BS8); at least a mobile host capable of establishing links to said base stations (fig. 1 MH); and a hierarchy-network of plural routers providing multiple-point routings between said base stations and said host network (fig. 1 R1-R7), wherein at least one of said routers becomes selectively performing as a multicast router for transferring a packet to not only a first base station which has currently been linked to said mobile host but also at least a second base station adjacent to said first base station, and said second base station has currently been unlinked to said mobile host (fig 1 step 3).

9. In regards to claim 38, APA discloses the communication network as claimed in claim 37, wherein said router selected as said multicast router is positioned at a branch point of both a currently designated communication route between said host network and said first base station and a currently undesignated adjacent communication route between said host network and said second base station (fig. 1 R5).

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10. In regards to claim 39, APA discloses the communication network as claimed in claim 38, wherein said selection of said multicast router is made by a retrieval to said branch point based on a position recording message from said mobile host and a last-updated routing information stored on a routing table of each of said routers, wherein said routing information is updated based on said position recording message from said mobile host (figure 1 step 3 is a multicast message from R5 based on stored information. Step 7 is an update to the routing information).

11. In regards to claim 40, APA discloses the communication network as claimed in claim 39, wherein said retrieval to said branch point is made, every when said mobile host moves to an adjacent radio area to said last-existed radio area, based on a new position recording message from said mobile host and a newly-updated routing information (figure 1 steps 1-7).

12. In regards to claim 41, APA discloses the communication network as claimed in claim 37, wherein said router selected as said multicast router has a lowest level in said hierarchy-network of plural routers and is positioned on a currently designated communication route between said host network and said first base station (fig. 1 R5).

13. In regards to claim 50, APA discloses the communication network as claimed in claim 37, wherein said multicast router is a bicast router (fig. 1 R5 bicast to BS3 and BS4).

14. Claims 51-55, 64; 65-69, 78; 79-83, and 92 are rejected upon the same grounds as claims 37-41 and 50.

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 22, 27, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Kanekar (US 6,751,191).

17. In regards to claim 22, APA discloses a communication network comprising: a host network (fig. 1 element 1); a plurality of base stations (BS1-BS8); at least a mobile host capable of establishing links to said base stations (MH); and a hierarchy-network of plural router-sets providing multiple-point routings between said base stations and said host network (R1-R7), and wherein selection of one of said associated routers in each router set is made by a selected higher level router which manages said associated routers (R1 chooses which routers in step 1), but does not disclose wherein each of said router-sets further includes plural associated routers which provide the same communication route and which have the same routing informations, and normally selected one of said associated routers in each router set is operational to provide said communication route, and if said normally selected one of said associated routers becomes trouble or inoperational, then other of said associated routers is alternatively selected to be operational to provide said communication route, thereby allowing continuous communication between said at least mobile host and said host network.

Kanekar discloses a router backup system in which both routers are fully operational and share the same information is figure 3 and column 6 lines 1-20.

It would have been obvious to one of ordinary skill in the art to use the backup router system described by Kanekar in the routing system of the APA because Kanekar's backup system reduces switchover time, as disclosed in column 5 line 62 to column 6 line 2.

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18. Claims 27 and 32 are rejected upon the same grounds as claim 27.
19. Claims 1, 3-6, 8, 10-13, 15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art (APA) in view of Cheriton (US 6,724,721).
20. In regards to claim 1, applicant admits a communication network comprising:
  - a. A host network (fig 1 element 1);
  - b. A plurality of base stations (fig. 1 BS<sub>1</sub> – BS<sub>8</sub>);
  - c. At least a mobile host capable of establishing links to said base stations (fig. 1 MH); and
  - d. A hierarchy-network of plural routers providing multiple-point routings between said base stations and said host network, and said routers including at least a page-area managing router for managing at least a page area for recording said mobile host (fig. 1 R<sub>1</sub> – R<sub>7</sub>).

APA does not disclose wherein said page-area managing router transfers packets to subordinate routes managed by said page-area managing router only when a quantity of the packets does not exceed a predetermined number in a predetermined time period, and wherein said page-area managing router does not transfer packets that are received in the predetermined time period in excess of the predetermined number, and wherein said page-area managing router discards the packets that are received in the predetermined time period in excess of the predetermined number.

Cheriton discloses limiting the number of packets sent in each time period in column 9 line 38 – column 10 line 42. Column 9 lines 38-58 disclose a credit system for limiting the

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number of packets. Each received packet is compared to the value of the remaining credits. If sufficient credits remain the packet is transmitted. If insufficient credit remains the packet is not transmitted and the packet is discarded. Column 10 lines 1-3 disclose that the credits are refreshed at the end of the predetermined time period.

It would have been obvious to one of ordinary skill in the art to include the packet limiting credit system taught by Cheriton in the communication network admitted by the applicant because the credit system fairly allocated bandwidth among flows even if some of the flows are behaving “badly” or “aggressively” as disclosed by Cheriton in column 4 lines 22-61.

21. In regards to claim 3, APA and Cheriton disclose the communication network as claimed in claim 1, wherein said page-area managing router is capable of optionally setting said predetermined number. Cheriton discloses that the rate limit (predetermined number) may be variably set in column 10 lines 13-26.

22. In regards to claim 4, APA and Cheriton disclose the communication network as claim in claim 3, wherein said predetermined number is a natural number. Cheriton discloses two different limit examples in column 10 line 14 and both are natural numbers.

23. In regards to claim 5, APA and Cheriton disclose the communication network as claimed in claim 1, wherein said page-area managing router is capable of optionally setting said predetermined time period. Cheriton discloses a method for determining the time period in column 10 lines 13-26.

24. In regards to claim 6, APA and Cheriton disclose the communication network as claimed in claim 1, wherein said page-area managing router transmits, through said host network to a caller, a packet-transmission suppression request which requests said caller to widen a time



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interval between transmission of said packets. Cheriton discloses sending a backchannel message requesting the source slow its transmission in column 13 lines 1-5.

25. Claims 8-13 are rejected upon the same grounds as claims 1-6.

26. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA and Cheriton as applied to claims 1-6, 8-13, and 15-20 above, and further in view of Nouredine.

27. In regards to claim 7, APA and Cheriton disclose the communication network as claimed in claim 1, but not wherein said page-area managing router transmits, through said host network to a caller, a packet transmission suppression request which requests said caller to stop transmission of said packets until said predetermined time period has passed, and re-start said packet transmission thereafter.

Nouredine discloses a backpressure method in section 2 and backpressure messages are taught in section 2.3 on page 1257. When a buffer is full a message is sent stopping transmission. When packets can again be received a new message is sent restarting transmission.

It would have been obvious to one of ordinary skill in the art to include backpressure messages, as taught by Nouredine, in the communication network of AAPA and Cheriton because backpressure helps increase network efficiency and fairness, as taught in section 3.1.3 on pages 1259-1260.

28. Claim 14 is rejected upon the same grounds as claim 7.

***Allowable Subject Matter***

29. The indicated allowability of claims 22, 25-27, 30-32, and 35-92 is withdrawn in view of the newly discovered reference(s) to APA and Kanekar. Rejections based on the newly cited reference(s) follow.

30. Claims 25, 26, 35, 36, 43-49, and 56-63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

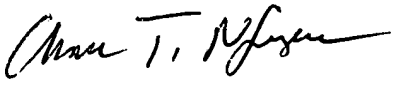
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Rose whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Thursday, 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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